Endoscopic ultrasound-guided antegrade stenting through a hilar cholangiocarcinoma associated with a severe biliary infection

The efficacy of endoscopic ultrasound-guided (EUS) antegrade stenting has been previously reported [1, 2]. We describe a rare and fatal complication of EUS antegrade stenting.

A 79-year-old woman who had undergone Roux-en-Y reconstruction following total gastrectomy was admitted with jaundice and cholangitis. Computed tomography (CT) showed a large hilar cholangiocarcinoma containing air (Fig. 1). Right and left biliary ducts were displaced. Transpapillary biliary drainage using a single-balloon enteroscope failed because the ampulla was not visible owing to tumor invasion. Therefore, we conducted endoscopic ultrasound-guided antegrade stenting (Video 1). The B3 branch was punctured. Although we intended to advance a guidewire into the duodenum through the common bile duct, the guidewire was advanced into the duodenum through the tumor. The first stent (Zilver 635, 10-mm, 6-Fr; Cook Medical, Bloomington, Indiana, USA) was deployed over the guidewire. Subsequently, an additional guidewire was inserted into the right hepatic duct, and the second stent (Zilver 635, 10-mm, 6-Fr) was deployed in a side-by-side configuration. Finally, a plastic stent (TYPE-IT stent; Gadelius Medical Co. Ltd., Tokyo, Japan) was also deployed from the initial stent to the jejunum (Fig. 2).

Although the postoperative CT revealed that the initial stent was deployed through the tumor (Fig. 3), early adverse events were not observed. The symptoms were resolved. However, she presented with a severe biliary infection 1 month later. CT revealed a large amount of air in the tumor and biliary tract (Fig. 4). She died 24 hours after developing sepsis. The autopsy revealed a large fistula between the tumor and duodenum. We considered that the initial stent through the tumor was associated with the biliary infection because the stent was inside the fistula.

Endoscopists need to recognize that a guidewire may be easily advanced into a tumor. When such situations are noticed, conducting a simple EUS-guided hepaticojejunosotomy should be considered.

The authors

Hirofumi Harima, Seiji Kaino, Yuko Fujimoto, Shogo Amano, Isao Sakaida
Department of Gastroenterology and Hepatology, Yamaguchi University Graduate School of Medicine, 1-1-1 Minami-Kogushi, Ube, Yamaguchi 755-8505, Japan

Competing interests

The authors declare they have no conflict of interest.
Video 1: Complication of endoscopic ultrasound-guided antegrade stenting. A guidewire was advanced into the duodenum through the tumor, and a metal stent was deployed over the guidewire.

Corresponding author

Hirofumi Harima, MD
Department of Gastroenterology and Hepatology, Yamaguchi University Graduate School of Medicine, 1-1-1 Minami-Kogushi, Ube, Yamaguchi 755-8505, Japan
Fax: +81-836-519391
harima@yamaguchi-u.ac.jp

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